

## CLAIMS

1. A juvenile seat comprising  
a seat shell including a bottom seat portion and a back support portion  
coupled to the bottom seat portion and positioned at an angle relative to the bottom  
5 seat portion,  
a headrest coupled to the seat shell and arranged for up and down  
movement relative to the seat shell to adjust a height of the headrest above the bottom  
seat portion of the seat shell, the headrest having a rear surface engaged with a back  
support surface of the back support portion, and  
10 a height-adjustment mechanism including a locking pin coupled to the  
headrest for up and down movement with the headrest and a vertical slot provided in  
the back support portion of the seat shell and formed to receive the locking pin  
therethrough, the vertical slot defining vertically-spaced position indicators formed to  
receive the locking pin in a locked position to prevent the headrest from moving  
15 upwardly and downwardly relative to the seat shell.
2. The juvenile seat of claim 1, wherein the locking pin includes a  
first portion having a first diameter and a second portion coupled to the first portion  
and having a second diameter larger than the first diameter, and wherein the second  
20 portion of the locking pin is positioned within one of the position indicators in the  
locked position and is disengaged from the position indicators in an unlocked position  
to permit the headrest to move upwardly and downwardly relative to the seat shell.
3. The juvenile seat of claim 2, wherein the vertical slot further  
25 includes vertical segments having a width smaller than the second diameter of the  
locking pin.
4. The juvenile seat of claim 3, wherein the width of the vertical  
segments is larger than the first diameter of the locking pin.  
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5. The juvenile seat of claim 2, wherein the second portion of the  
locking pin is coupled to the headrest.

6. The juvenile seat of claim 5, wherein the second portion of the locking pin includes an aperture, the headrest includes an aperture, and the aperture of the locking pin and the aperture of the headrest are each formed to receive a fastener  
5 to couple the headrest to the locking pin.

7. The juvenile seat of claim 2, further comprising a spring formed to bias the second portion of the locking pin into one of the position indicators of the vertical slot.  
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8. The juvenile seat of claim 7, wherein the height-adjustment mechanism further includes a shroud member having an aperture formed to receive the locking pin therethrough and a base member coupled to the first portion of the locking pin and wherein a first end of the spring is engaged with the shroud member  
15 and a second end of the spring is engaged with the base member.

9. The juvenile seat of claim 1, wherein the locking pin is a first locking pin, the vertical slot is a first vertical slot, and the height-adjustment mechanism includes a second locking pin coupled to the headrest and spaced-apart  
20 from the first locking pin and a second vertical slot provided in the back support portion of the seat shell and spaced-apart from the first vertical slot, and wherein the second locking pin is received through the second vertical slot.

10. The juvenile seat of claim 1, wherein the height-adjustment mechanism further includes a guide pin coupled to the headrest and spaced-apart from  
25 the locking pin.

11. The juvenile seat of claim 10, wherein the guide pin is received through the vertical slot.  
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12. The juvenile seat of claim 11, wherein the headrest is arranged to move with the locking pin and the guide pin in a direction generally perpendicular to a plane of the back support portion.

5 13. The juvenile seat of claim 10, wherein the guide pin is vertically spaced-apart from the locking pin.

10 14. The juvenile seat of claim 13, wherein the vertical slot further includes vertical segments alternately spaced between the position indicators and wherein second portion of the locking pin is positioned within one of the position indicators in the locked position and the guide pin is positioned within one of the vertical segments in the locked position.

15 15. The juvenile seat of claim 14, wherein the vertical slot includes three position indicators and three vertical segments.

20 16. The juvenile seat of claim 10, wherein the locking pin includes a first portion having a first diameter and a second portion coupled to the first portion and having a second diameter larger than the first diameter and wherein the guide pin has a guide-pin diameter smaller than the second diameter of the locking pin.

17. The juvenile seat of claim 10, wherein the guide pin and the locking pin are immovable relative to the headrest.

25 18. The juvenile seat of claim 10, wherein the height-adjustment mechanism further includes a base member and the first portion of the locking pin is coupled to a base member and the guide pin is coupled to the base member.

30 19. The juvenile seat of claim 18, wherein the locking pin, guide pin, and base member are spring-biased to the locked position by a spring of the height-adjustment mechanism positioned around the locking pin.

20. The juvenile seat of claim 1, wherein the height-adjustment mechanism further includes a shroud member engaged with the back support portion of the headrest and formed to define an aperture aligned with the vertical slot and wherein the locking pin is received through the aperture of the shroud.

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21. The juvenile seat of claim 20, wherein the height-adjustment mechanism further includes a base member coupled to the first portion of the locking pin, the shroud includes a end wall engaged with the back support portion of the seat shell and an outer rim coupled to the end wall to cooperate with the end wall to define a cavity formed to receive the base member therein.

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22. The juvenile seat of claim 21, wherein the height-adjustment mechanism further includes a spring positioned around the locking pin and having a first end engaged with the base member and a second end engaged with the end wall of the shroud to bias the locking pin in a direction toward the back support portion.

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23. The juvenile seat of claim 21, wherein the height-adjustment mechanism further includes a guide pin coupled at a first end to the base and coupled at a second end to the headrest and spaced-apart from the locking pin and wherein the guide pin is received within the vertical slot.

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24. The juvenile seat of claim 23, wherein the aperture of the shroud is a first aperture formed in the end wall of the shroud, the end wall of the shroud is further formed to define a second aperture, and the guide pin is received through the second aperture of the end wall.

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25. The juvenile seat of claim 20, wherein the back support portion of the seat shell is positioned between the headrest and the shroud.

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26. The juvenile seat of claim 1, wherein the locking pin and the headrest are arranged to move horizontally relative to the back support portion of the seat shell in a direction generally perpendicular to the back support portion of the seat

shell such that the rear surface of the headrest is engaged with the back support surface of the back support portion in the locked position and is spaced-apart from the back support surface of the back support portion in an unlocked position to permit the headrest to move upwardly and downwardly relative to the seat shell.

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27. A juvenile seat comprising

a seat shell including a bottom seat portion and a back support portion coupled to the bottom seat portion and positioned at an angle relative to the bottom seat portion,

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a headrest coupled to the seat shell and arranged for up and down movement relative to the seat shell to adjust a height of the headrest above the bottom seat portion of the seat shell, and

a locking pin coupled to the headrest for up and down movement with the headrest, the locking pin being formed to extend in a direction away from the headrest generally perpendicular to a plane defined by a back plate portion of the headrest, and

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a position indicator provided within the back support portion of the seat shell and formed to receive the locking pin therethrough.

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28. The juvenile seat of claim 27, wherein the headrest is coupled to a first end of the locking pin, and further including a base member coupled to a second end of the locking pin and arranged such that the back support surface of the back support portion is positioned between the headrest and the base member.

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29. The juvenile seat of claim 27, wherein the locking pin is rigidly coupled to the headrest and the locking pin and the headrest are arranged to move horizontally relative to the seat shell in a plane generally perpendicular to the back support portion of the seat shell between a locked position to prevent movement of the headrest relative to the seat shell and an unlocked position to permit movement of the headrest relative to the seat shell.

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30. The juvenile seat of claim 29, wherein a back plate of the headrest engages a back support surface of the back support portion in the locked position and is spaced-apart from the back support surface of the back support portion in the unlocked position.

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31. The juvenile seat of claim 29, further comprising a vertical slot formed in the back support portion of the seat shell and formed to include the position indicator.

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32. The juvenile seat of claim 31, wherein the vertical slot includes a plurality of position indicators and vertical segments alternatingly spaced with the position indicators and wherein the locking pin is positioned within one of the plurality of position indicators in the locked position.

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33. The juvenile seat of claim 32, wherein the locking pin includes a first portion having a first diameter and a second portion coupled to the first portion and having a second diameter larger than the first diameter, and wherein a width of each position indicator is larger than a width of each vertical segment.

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34. The juvenile seat of claim 33, wherein the diameter of the second portion of the locking pin is larger than the width of the vertical segments.

35. The juvenile seat of claim 32, wherein the vertical slot includes three position indicators to correspond to three different heights above the bottom seat portion of the seat shell and three vertical segments.

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36. The juvenile seat of claim 27, wherein the locking pin includes a first portion having a first diameter and a second portion coupled to the first portion and having a second diameter larger than the first diameter and wherein the second portion is received within the position indicator in a locked position to prevent the headrest from moving upwardly and downwardly relative to the seat shell and the first

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portion is received within the position indicator in an unlocked position to permit the headrest to move upwardly and downwardly relative to the seat shell.

37. A juvenile seat comprising  
5 a seat shell including a bottom seat portion and a back support portion coupled to the bottom seat portion and positioned at an angle relative to the bottom seat portion,  
a headrest coupled to the seat shell and arranged for up and down movement relative to the seat shell to adjust a height of the headrest above the bottom  
10 seat portion of the seat shell, and  
means for locking the headrest to prevent up and down movement relative to the seat shell.

38. The juvenile seat of claim 37, wherein the locking means is  
15 configured to permit back and forth movement of the headrest relative to the seat shell in a direction generally perpendicular to the back support portion of the seat shell.

39. The juvenile seat of claim 37, wherein the locking means includes a locking pin coupled to the headrest for up and down and back and forth  
20 movement with the headrest, a vertical slot provided in the back support portion to receive the locking pin therethrough, and a spring coupled to the locking pin to bias the headrest in a direction toward the back support portion.

40. The juvenile seat of claim 39, wherein the vertical slot includes  
25 a plurality of position indicators vertically-spaced apart from each other along the back support portion of the seat shell to indicate a particular height of the headrest above the bottom seat portion of the seat shell and wherein the locking pin is positioned within one of the plurality of position indicators in the locked position.

30 41. The juvenile seat of claim 40, wherein the vertical slot further includes a vertical segment positioned between the position indicators, and wherein

each position indicator has a first width greater than a second width of each vertical segment.

42. The juvenile seat of claim 39, wherein the locking pin includes  
5 a first portion having a first diameter and a second portion coupled to the first portion  
and having a second diameter larger than the first diameter and wherein the headrest  
is coupled to the second portion.

43. The juvenile seat of claim 42, wherein the second portion of the  
10 locking pin is positioned within one of the position indicators in the locked position  
and the first portion of the locking pin is positioned within the vertical slot in the  
unlocked position.

44. A method for adjusting a height of a headrest of a juvenile seat  
15 relative to a seat shell of the juvenile seat, the method comprising the acts of  
grasping the headrest,  
pulling the headrest in a direction away from a back support portion of  
the juvenile seat,  
moving the headrest up or down relative to the seat shell of the  
20 juvenile seat until a desired height of the headrest above a bottom seat portion of the  
juvenile seat is reached, and  
releasing the headrest.